

THE BRITISH JOURNAL

OF

TUBERCULOSIS

Vol. XI.

January, 1917.

No. 1.

SYMPOSIUM.

THE TUBERCULOSIS MOVEMENT UNDER WAR AND AFTER-WAR CONDITIONS.

THE BRITISH JOURNAL OF TUBERCULOSIS a year ago published a collection of representative opinions on "War and the Future of the Tuberculosis Movement."¹ As the greatest of conflicts has progressed it has become clear that the practical problems of tuberculosis must increase in complexity. The whole question of dealing with tuberculosis demands the fullest consideration in the light of war conditions and probable after-war conditions. As a contribution to the study of this pressing matter of tuberculosis in relation to public and personal health we have arranged for the present symposium, which, it is believed, will prove of considerable service.

¹ The symposium on "War and the Future of the Tuberculosis Movement" appeared in the BRITISH JOURNAL OF TUBERCULOSIS for January, 1916, Vol. X., No. 1, and the following were among the contributors: Sir Thomas Clifford Allbutt, Prof. E. W. Hope, Dr. A. Maxwell Williamson, Dr. J. C. Thresh, Dr. H. Hyslop Thomson, Dr. Herbert de Carle Woodcock, Dr. Jane Walker, Dr. J. J. Perkins, Sir John W. Byers, and Major Waldorf Astor, M.P.

FROM T. D. ACLAND,

M.A., M.D. (OXON.), F.R.C.P.,

Consulting Physician to St. Thomas's Hospital, the Brompton Hospital for Diseases of the Chest, and King Edward VII. Sanatorium; Major, R.A.M.C.T.

X

It might at first sight seem impossible to doubt that the community would acknowledge its obligation to provide in some way for any soldier who, having been accepted for military service, has broken down in health as a result of the hardships to which he has been exposed. This, however, is far from being the case, as may be gathered from Mr. Tennant's statement in the House of Commons on March 1, 1916, that, of 2,770 tuberculous soldiers discharged from the Army up to that date, no less than 1,129 had not received any pension. The allowances and pensions are now on a more generous scale, but, even so, unless there are to be numbers of discharged tuberculous soldiers gradually sinking in the social scale through poverty and disease, it is essential that adequate allowances should be made to them. These men are often more in need of help than those who have lost a limb, or been otherwise seriously injured. It does not in any way lessen the obligation to assert that they were not sound when they enlisted. Those who were in the first place responsible for their selection had the opportunity of rejecting them, and the time for declining to accept the responsibility was before they were admitted into the Army, not after they had broken down in the discharge of the duties imposed on them.

It is of prime importance to induce those who are in the early and curable stages of the disease to undergo prolonged treatment, and it rests with the community to make adequate provision for carrying this out. Much has been done in the right direction through the National Insurance Commission and the Local Government Board, which deserves cordial recognition; but sufficient discrimination is not always made between the different classes of cases, so that hopeless and incurable cases are treated in the same institutions with early and hopeful ones. This I believe to be a mistake, for great as is the need of places of refuge for advanced cases, the two classes need to be as far as possible kept apart, since the early cases are much discouraged by the presence of those who are not making any progress, and improvable cases are seriously depressed when they are placed in a ward where there are many deaths.

X

There is considerable difference of opinion as to whether tuberculous soldiers should receive sanatorium treatment before or after their discharge from the Army. There may possibly be some advantage in the former course, since the man would remain under military discipline

and be kept under control as long as might be considered necessary, and at the same time he would be in receipt of whatever pay and allowances he was entitled to. This, however, is not such an easy matter, since it would be impossible to treat men under military discipline in the same institution as civilians who were not under the same rule. Such a plan could not fail to result in difficulties and discontent, and would, I think, almost certainly fail in its object. Further, it must be remembered that the discharged soldiers are merely a part of the civil population who have temporarily been called up for military service. My own feeling is that, if reasonable provision can be made for those dependent on him, a man is more likely to throw himself heartily into his "cure" if he is doing it voluntarily rather than under compulsion, and that large military sanatoria for the treatment of tuberculous cases under military discipline would not be likely to prove as successful as smaller scattered institutions conducted on the voluntary principle, and in which a man could be treated in the part of the country to which he belonged. In either case there is one important concession that might well be made. At present, men who have been discharged from the Army for tuberculosis do not get any furlough before going to a sanatorium. This often reacts very hardly on men who have not been home for a long time, especially if the sanatorium to which they are sent is situated at some distance from their homes, as is not infrequently the case. Various objections have been made to such a plan, the most important of which is that if the tuberculous men went home first, many of them would not proceed to the sanatorium, but would be tempted to stay at home and so become a danger to their families. My own belief, gained from the experience of several hundred cases which have come under my observation, is that this difficulty is not a real one, and that it would be amply met by making any allowances or gratuities to which the man might be entitled dependent on his loyally carrying out the treatment recommended for him by competent medical experts.

As a complement to any scheme, suitable accommodation should be provided for other tuberculous cases besides those in which the lungs are involved. At present many county authorities do not make provision, or provide any effective treatment, for cases of tuberculous peritonitis, synovitis, adenitis, etc., and do not admit such tuberculous patients into sanatoria. It is essential that all such cases should receive adequate treatment, and be cared for in institutions where skilled surgical aid is available.

Lastly, more attention should, I think, be paid to the provision of suitable clothing for sanatorium wear. Those who have recently been in a hot climate feel the cold acutely, and to send them during the winter months to live an open-air life insufficiently provided with warm

4 THE BRITISH JOURNAL OF TUBERCULOSIS

clothing is likely not only to result in unnecessary suffering, but even to defeat the very object for which the patient has been sent to the sanatorium for treatment.

FROM SIR JOHN MOORE,

M.A., M.D., D.P.H. (DUBLIN); HON. D.SC. (OXON.); F.R.C.P.I.,
Hon. Physician in Ordinary to H.M. the King in Ireland; Senior Physician, Meath Hospital and County Dublin Infirmary, etc.

My remarks must relate to conditions in Dublin. At an early stage in the Great War the Dublin Soldiers' and Sailors' Help Society established an Employment Bureau for Disabled Soldiers and Sailors who had not been employed, either prior to enlistment or during the war, on work of a mechanical nature. As time went on, it was found on investigating cases which applied at the bureau that in not a few instances applicants were ill and apparently suffering from tuberculosis of the lungs. The homes—if such a word is permissible—of the men were visited by ladies, who found in them all sorts of sanitary, structural, and economic defects. The members of the Bureau Committee did their best to cope with the state of things which was revealed. But the task assumed such proportions that it became necessary to apply for help to the County Dublin Branch B.R.C.S. and St. John Ambulance Association. The Executive Committee of that body took up the matter in a sympathetic, active, and practical manner. In a spirit of truest philanthropy one of the members of the Committee, Dr. John Lumsden, Deputy Commissioner of the St. John Ambulance Brigade, No. 12 (Irish) District, and Director-in-Chief for Ireland, Joint St. John and Red Cross V.A.D., undertook to visit in person every applicant for relief who was suspected of old tuberculous trouble or of having recently contracted tuberculosis. The result of Dr. Lumsden's investigations was that the Executive Committee asked him to present a Report with recommendations. This he did, and the Report was published in the *Dublin Journal of Medical Science* for September, 1916 (Vol. CXLII, No. 537, Third Series, p. 190). That Report deals exhaustively with the problem of tuberculous soldiers discharged from the Army, and leaves little for me to add. However, it may be interesting to state that "the Tuberculosis Committee" (Disabled Soldiers) appointed in accordance with the suggestion of Dr. Lumsden to deal specially with the cases of disabled and discharged soldiers suffering from tuberculosis, on the books of the Employment Bureau of the Soldiers' and Sailors' Help Society, Dublin, commenced its work in September, 1916. Seventy-five men afflicted with the disease in its

various stages were practically all examined by Dr. Lumsden with unsparing trouble, and on receiving his reports and advice upon each case arrangements were and are being made and are carried out by the Committee for the treatment of each man as circumstances render necessary. The sole services of a fully qualified visiting nurse have been engaged, and all men not in sanatoriums, or suitable for admission to such institutions, are regularly visited. "Relief" in food is given where necessary, while grants of food are also given in deserving cases to the families of men while the latter are undergoing sanatorium treatment. Clothing is bought for men when going to sanatoriums, and all expenses of their stay there are paid by the Committee. Up to the time of writing twenty-one of our men have been admitted to sanatoriums; eight have been taken into hospitals, "rests," or convalescent homes; fourteen have received relief in food orders, rent, and so on. Nine of the tuberculous men registered in our books have been employed since they became fit for work. All expenses are supplied by a fund which has been started by the Employment Bureau of the Soldiers' and Sailors' Help Society, and which is altogether dependent upon voluntary contributions. The Executive Committee of the County Dublin Branch B.R.C. and St. John has helped by a generous donation. To the Hon. Secretary, Miss Phyllis White, I am indebted for the above information. It is not a little unfortunate that at a time when it becomes all-important—more important than ever—that incipient cases of tuberculosis among our sailors or soldiers and their families should be quickly and effectively dealt with, a serious blow should be struck at notification of tuberculosis. This has been done by the Legislature in placing on the Statute Book the "Local Government (Emergency Provisions) Act, 1916." Section 5 of that Act fixes at one shilling the fee payable to a medical practitioner for a certificate or notification duly sent by him to the proper authority in accordance with the provisions of Section 4 (2) of the Infectious Disease (Notification) Act, 1889, and Section 1 (5) of the Tuberculosis Prevention (Ireland) Act, 1908, in respect of a case of disease to which these sections apply occurring in his private practice. A "War Bonus" in the shape of a reduction of 60 per cent. in the amount of the fee payable for notification *under a penalty* is not calculated to arouse the enthusiasm of the medical profession in regard to notification of tuberculosis.

6 THE BRITISH JOURNAL OF TUBERCULOSIS

FROM J. LUMSDEN,

M.D. (UNIV. DUB.),

Knight of Grace of the Order of St. John of Jerusalem ; Senior Physician Mercer's Hospital, Dublin ; Examiner in Medicine, Apothecaries' Hall, Dublin, etc.

The present arrangements with regard to tuberculous sailors and soldiers discharged from the Services are proving to be most unsatisfactory, and certainly call for more enlightened and practical consideration. The naval and military authorities apparently consider that, as most of these men, when discharged, are thrown back on the care and control of the Insurance Committees under the National Health Insurance Act, their responsibility has ceased. Before discharge the tuberculous man is usually offered sanatorium treatment, and this is often, and perhaps generally, refused, and there is no machinery to compel him to accept it. It is true the patient may obtain in lieu of it "domiciliary benefit," but apparently this is not in the majority of cases fully availed of. Such a policy, therefore, is unenlightened, and merely shifts the responsibility on to the shoulders of a machine which so far has failed to deal successfully with the problem of tuberculosis. It is mere folly to say to a man: "You have tuberculosis; we will cure you by obtaining for you three or four months' sanatorium treatment at Government expense." This may prove satisfactory and sufficient in a few carefully selected cases, but it is futile in those cases in which the disease is well established. Even in the incipient stage a course of such treatment for from three to six months will not "cure" unless the man can follow a hygienic mode of life and live in the open air. If agricultural colonies could be established on the land for the employment of these men after treatment, it would help to solve the problem. All of us who have had large experience know very well that practically the only cases we see of permanent arrest are amongst the better classes, who can continue treatment for a prolonged period after leaving the sanatorium in a manner which a poor man can never hope to attain. I therefore believe the millions spent in trying to cure could have been used with greater advantage in endeavouring to prevent the spread of the disease, and in segregating the incurables and highly infectious cases, and this by compulsory methods if necessary. If the problem as it affects discharged soldiers and sailors is now to be successfully handled, I would submit that these men should be retained in the Service, compelled to go to a sanatorium if found suitable for such, and not discharged from the Service till in a condition to take up work, and then their occupations must be carefully selected and be preferably of an open-air kind. As things are at present a vicious circle exists, and until a way out of it can be found the problem will remain

with us. Meanwhile, I consider carefully supervised domiciliary treatment would, from a national point of view, affect more than can be expected from sanatorium treatment, and in this direction possibly the services of philanthropic bodies and voluntary workers such as can be provided by the members of the St. John Ambulance Brigade might be largely availed of.

FROM HALLIDAY SUTHERLAND,

M.D. (EDIN.),

Temporary Surgeon, Royal Navy; Consulting Tuberculosis Officer for North Marylebone; and Medical Officer to the St. Marylebone Tuberculosis Dispensary.

The death in Poor Law Infirmaries of tuberculous men discharged from the Services has aroused misdirected protests in the Press. A man leaving the Services becomes a civilian, and the fault of inadequate treatment lies with the civil, and not with the Service, authorities, although the latter might certainly free themselves from the encumbrance of tuberculous combatants by making more special use of those tuberculosis experts who now hold commissions. The chief point is that if the Edinburgh system for the control and eradication of tuberculosis—comprising the tuberculosis dispensary, the open-air school, the sanatorium, the farm colony, and the hospital for advanced cases—were adopted throughout the country, no case of tuberculosis would be left uncared for. There are five serious obstacles in the way to progress on these lines.

The voice of apathy or of self-interest whispers to local authorities: "If the housing of the people was improved, the phthisis death-rate would fall as rapidly as it did in the first era of sanitary reform, 1850 to 1880; therefore spend no money on measures to control the direct spread of infection." To appreciate the hypocrisy of this attitude it is only necessary to remember that tuberculosis is an infectious disease, whose virus in massive or long-continued doses will overcome the strongest resistance; that an ignorant consumptive will infect others, whether he live in a well-built house or in a hovel; and that, beyond a certain point, housing does not influence the incidence of the disease. By their works ye shall know them, and those who on these grounds refuse treatment to the tuberculous poor are not particularly distinguished by any immediate zeal to build new houses. They prefer to leave everything to the "State."

If the "State" means the Government, one example of the unselfish interest of professional politicians in anything that really concerns the welfare of the people will suffice for my purpose. Fifty per cent. of cases of tuberculosis affecting bones, glands, and joints, are due to the

8 THE BRITISH JOURNAL OF TUBERCULOSIS

bovine tubercle bacillus, some ten thousand children die every year from drinking infected milk, and in London alone one in ten samples of milk contain living tubercle bacilli. That represents an inconceivable amount of suffering, and yet all measures for prevention, including the recommendations of a Royal Commission, have been persistently rejected by Parliament. The authorities themselves are ignorant of the extent of the evil. When I desired to know the number of seizures of diseased carcasses exposed for sale in butchers' shops throughout the country—a very trivial offence for which small fines are inflicted—I wrote to the Board of Agriculture, who did not know, but who referred me to the Local Government Board, who did not know, but who referred me to the Home Office, who did not know: Nobody knew.

When local authorities do adopt a comprehensive scheme, its success or failure depends largely upon the tuberculosis officer, and in too many areas the tuberculosis officer has the status and salary of an assistant Medical Officer of Health. The logical consequences are as follows: Good men are not attracted by low salaries. Again, if the chance of promotion depends on administrative ability, there is at least the possibility that the tuberculosis officer may regard the clinical side of his work as of minor importance. If he does not do so, then his promotion to a purely administrative post will mean a loss to the community of gifts not won without effort.

With this dead weight above them, it is no marvel that many general practitioners feel indifferent about tuberculosis. They object to a young inexperienced man, with three months' special training, coming into the lives of their patients, and they rightly claim that such men should not be appointed as tuberculosis officers. Other practitioners do not see the use of sanatoria, as many patients sent there do not recover; but these doctors fail to recognize that in such cases their own initial diagnosis was probably delayed too late. Until the essential facts of tuberculosis are accepted in the everyday practice of medicine, little can be done to eradicate the disease.

Last of all there is the natural attitude of a large number of charitable people: "Why should we subscribe to schemes for the control of tuberculosis when we are already taxed by the State in order to support State schemes to that end?" The reply must be that individual initiative has always preceded collective effort, and that when State schemes are hampered by inherent apathy and indifference, the encouragement of voluntary work on sound lines will alone put things right.

FROM EDWARD W. HOPE,

M.D., D.SC.,

Medical Officer of Health for the City and Port of Liverpool; Professor of
Public Health for the University of Liverpool.

My opinions may be summarized as follows :

I. *Under War Conditions* the work of most Tuberculosis Departments has had to be cut down to the minimum owing to the military demands on the medical staff, and to the demands of the War Office for beds for wounded soldiers. The following are the essential parts of the scheme we are seeking to carry out in Liverpool under present conditions :

(1) *Patients dealt with.*—These include insured persons and dependents, also in Liverpool by special arrangement those non-insured who cannot afford to pay a practitioner's fees. The majority of the cases are referred by the patients' own doctors, others make application on their own behalf; and others again are referred by the military or naval authorities. (2) *Procedure.*—All persons referred are carefully examined either at the Tuberculosis Institute, or, if too ill to attend there, at their own homes, with a view to verifying the diagnosis, and if found to be suffering from tuberculosis to arrange for such treatment as is required. This consists of one or more of the following : (a) Domiciliary treatment by the panel doctor, or in the case of dependents of the insured by the doctor they desire, if he should be willing to undertake the treatment ; (b) treatment at the Tuberculosis Dispensary ; (c) the provision of extra nourishment when necessary ; (d) surgical treatment at a general hospital when required ; (e) sanatorium treatment. Non-insured persons are eligible for domiciliary treatment or for extra nourishment by special arrangement. Limited sanatorium accommodation necessitates in many cases prolonged domiciliary or dispensary treatment before removal to the sanatorium can be effected. Before the admission of any case the patient is again visited by the nurse, and if necessary by the Tuberculosis Officer, to ascertain if the patient is in a fit condition to travel. On discharge from hospital or sanatorium the case is again examined as a matter of after-care, but it has been found impracticable to carry out as in normal times the frequent re-examination of these cases as well as of those cases for whom domiciliary treatment has been arranged. The examination of contacts has also had to be dropped. Further curtailment would seriously impair the usefulness of the department, particularly as it is feared that the present condition of strain to which workers in munition and other factories are subjected is likely to lead to an increase in the prevalence of the disease. At present there are about 490 patients suffering from tuberculosis receiving sanatorium treatment.

II. *Under Conditions after the War.*—Seeing that human life will have a higher value than in the past, the closest possible attention to the full and complete tuberculosis scheme will be required, and ample provision for the treatment of dependents and a complete system of after-care will be necessary. All sanitary measures having for their object the prevention of tuberculous disease, housing, the supervision of the milk supply, and so forth, will require to be energetically pressed forward.

FROM SIR WILLIAM J. THOMPSON,

M.D.,

Hon. Secretary of Peamount and Rosslare Sanatoria under the auspices of the Women's National Health Association of Ireland.

Generally speaking, the Tuberculosis movement under the National Insurance Act in Ireland has gone on in much the same way since the War commenced as it did prior to August, 1914. The different Insurance Committees and County Councils are doing their utmost to deal with cases brought under their notice, and they are sending much the same numbers to the two sanatoria under the Management of the Women's National Health Association, Peamount and Rosslare. Owing to enlistments and other causes, the incomes of the County Insurance Committees have diminished, and, on that account, their activities are slightly limited. However, in a great number of counties the Insurance Committees and the County Councils have formed Tuberculosis Committees, and when these get into working order it is anticipated that greater activities will be forthcoming.

Owing to the enormous increase in the price of food, especially latterly, the institutions are feeling their responsibilities; and what is a more serious consideration is the fact that this condition of affairs reacts injuriously on the "after-care" treatment. It is universally admitted that the "after-care" treatment of patients leaving the sanatorium is most important, and if the patients themselves or their families are not able to provide sufficient and nourishing food, one can see that the good effects of sanatoria treatment will be greatly diminished. There is a growing feeling that something more definite should be done for this stage of the treatment, especially at the present time when food is so expensive.

On the whole, the arrangements made by the War Office for the admission to different sanatoria of soldiers who have contracted tuberculous disease on active service seem to work out satisfactorily. It is feared that the number of such patients will increase, and should this be so probably further arrangements will be necessary.

We all trust that the War will soon be over, and that those who have unsparingly helped so much towards the comfort and welfare of our Forces will be in a position to turn their attention to tuberculosis work. In this way a vigorous campaign could be inaugurated, which,

WAR AND THE TUBERCULOSIS MOVEMENT 11

after a comparatively short time, should show a beneficial effect to the country, to its people, and to the general welfare of the community.

FROM CECIL WALL,

M.A., M.D., F.R.C.P.,

Senior Assistant Physician to the Brompton Hospital for Consumption and
Physician to the London Hospital; Dean of the Brompton Hospital
Medical School.

In the present circumstances, the chief need in the campaign against tuberculosis is intelligent organization. Increase of expense is scarcely possible, and improvement can be obtained only by the co-ordination of existing methods. The prevention of the spread of the disease could be organized more economically than at present if compulsory notification of pulmonary tuberculosis was confined to those cases in which the diagnosis has been definitely established by the discovery of tubercle bacilli in the sputum or by the presence of other unequivocal evidences of the disease. But if notification is thus limited it should be repeated whenever the patient changes his residence, and, in order to secure proper co-ordination, the notification should be made to some central body such as the Local Government Board, which should be responsible for the transmission of the information to the local authority of the district concerned. The establishment of a central bureau would result in the accumulation of valuable information with regard to the frequency and duration of the disease, the influence of environment, the effect of treatment, and the capacity of the sufferers for work after treatment. The present system of notification to local authorities is rendered of little value by the migratory habits of the patients.

A second important point on which a great deal of effort is at present concentrated is the provision of institutional treatment in the more active stages of the disease. The urgent need here is co-ordination of effort, so that the accommodation at present available may be used in the best possible way. Patients now often drift from institution to institution, and with each change the labour of investigation has to be repeated, too frequently with the same conclusion—namely, that the case is one which is not likely to receive permanent benefit from institutional treatment. With overcrowded institutions this results in the exclusion of many suitable cases.

The third important point which I would emphasize at the present time is the provision of satisfactory living conditions for those patients who have undergone treatment in an institution, or have been found unsuitable for such treatment. There is an urgent need for homes of rest in the immediate neighbourhood of their relatives and friends, for those in the later stages of tuberculous disease, who are totally incapacitated.

tated for work, and if allowed to remain at home, are a source of danger to other occupants of the house. Another important problem is the want of adequate provision for those who have some working capacity; a system is required whereby part-time labour can be carried out under satisfactory hygienic conditions. At the present time, rather too much stress is laid upon the value of fresh air for those in whom the disease has been arrested, and too little stress upon the common-sense adaptation of the necessarily limited output of physical energy, so that a livelihood can be earned with the least risk of recrudescence of the disease.

Concentration of effort in regard to these three directions seems to me to be of paramount importance at the present time.

FROM GEORGE A. CRACE-CALVERT, M.B.,

Resident Medical Superintendent of the Vale of Clwyd Sanatorium, Ruthin, North Wales.

To treat tuberculosis successfully the treatment must be prolonged. At present most of our efforts seem to be expended in sending the patient to a sanatorium for a short time, forgetting that a sanatorium is in most cases merely a centre for instruction, and that the real treatment comes afterwards when the patient has left the sanatorium and returned to home and work. Tuberculosis which has taken months to develop—and perhaps has occurred in a subject debilitated by months of wrong living or in an environment of poor conditions—cannot be cured by three months' treatment in any sanatorium. No patient on leaving a sanatorium is fit for an immediate return to his ordinary work *under the old conditions*. Under sanatorium conditions he may perform his full work, but under the old conditions he will probably relapse sooner or later. "After-Colonies" probably provide the ideal "after-treatment," but the number of patients is so great that the after-colony would need to be a large town, and as the number of open-air occupations is small and the question of competition would soon arise, there might soon be a tendency for the old conditions to recur and exercise their pernicious influence. Failing "after-colonies" the patient on leaving a sanatorium must be helped for a time, and the adoption of the suggestion recently made by Dr. P. Varrier Jones would go far to meet the difficulty. As I have said, no man is fit to resume full work directly he leaves the sanatorium, but if he could obtain light work at smaller wages, and receive, say, half the usual Friendly Society allowance for three to six months, he would then probably be in a better position to resume full work, and the Society would have spent less than if he went back to full work at once, only to break down and come on the Society again at full rates until his death later on. Home treatment must be considered a failure unless it keeps the patient under full sanatorium conditions.

ORIGINAL ARTICLES.

PRACTICAL CONSIDERATIONS ON THE
CONDUCT OF WORK AT A TUBERCULOSIS
DISPENSARY.

By HENRY A. ELLIS,

M.B., B.S.,

Tuberculosis Medical Officer to the County Borough of Middlesbrough.

WHEN I wrote last year in this Journal, it was regarding the problem which then seemed most pressing as viewed by an outsider coming from Australia, and called to administer the Tuberculosis Section of the Insurance Act at Middlesbrough in Yorkshire. The question I then endeavoured to answer was, "How can the Insurance Committee best employ the limited funds at their disposal for the relief of Tuberculous Cases?" The expenditure appeared to be without sufficient direction, and to have accomplished little for the amount of time, energy, and finance devoted to it. The conclusion I then arrived at was that the expenditure had been too diffused, considering the limited sum available under the scheme, and that through that very diffusion no section of those suffering from tuberculosis had received adequate benefit. It was suggested that in future the expenditure should be concentrated, on the principle that all money should be spent on cases *in order of least infection*. Beginning with Class I., which included all those insured persons who were affected with tuberculosis, and in whom there was a prospect that the disease could be definitely arrested, it was advised that they should be given the first call on the funds, so that they could be returned to their full position in active life with the best prospect of their remaining permanently improved. After that as many as could be afforded of Class II. should be treated, but as there would not be enough money to allow them the long residence (estimated at six months) in a fully equipped sanatorium necessary to re-establish health, in their case one would do just as much as was possible. It was recommended that expenditure on Class III. should be jettisoned altogether in so far as special treatment was concerned, as there was no prospect of sufficient funds being available to allow of these cases being treated in a satisfactory manner.

Encouraged by the support which my suggestions received, and the favourable criticisms of many experts, the principal points advocated have been faithfully carried out in our work at Middlesbrough, with the most beneficial results. It has become apparent that the ninepence allowed to medical practitioners under the Insurance Act is just about sufficient to allow for the effective treatment of patients in Class I. and the lighter cases in Class II., where there are grounds which suggest that there is still a possibility of their returning to active life with a fair prospect of being able to continue at their occupation permanently. The remainder of Class II. has not been found nearly so numerous as was expected. It is hoped to obtain the exact figures next year. As regards Class III., so far as can be ascertained they have not suffered materially from the policy adopted. There has been no increase in the death-rate, and the results do not seem to be worse than previously. I hope to be able to analyze the figures more accurately next year.

One result so far arrived at is outstanding—namely, great improvement has followed the policy of treating Class I. with increasing energy. It has been apparently so successful as to give a hope that it will ultimately materially ameliorate the numbers and condition of cases now occurring in the other two classes. When cases are notified early, they rarely seem to go to the bad. These patients are found to be quite willing to take the necessary care in a far greater proportion of instances than the later cases have, and the affected subjects have been extremely regular in their attendance at the Tuberculosis Dispensary. The keenness of the patients in loyally co-operating in endeavours to obtain a return to health has amply repaid the extra work entailed. There are now some 100 cases in Middlesbrough of men and women working full time and attending at the Dispensary with sufficient regularity to allow of a constant supervision, and fully 95 per cent. of these cases are at present doing well. This brings me to the point which I desire to emphasize in this article—namely, that tuberculous patients do extraordinarily well when, as early cases, they are treated systematically and strictly in their own homes. They must be definitely early cases of the type we rank as Class I. (the lighter cases belonging to Class II. generally require some time in a Sanatorium). This has been quite an unexpected result. Coming from Australia with its large spaces, I naturally did not expect to secure such good results in the apparently cramped streets of a city manufacturing centre as I had obtained when conducting the Sanatorium in Coolgardie, though the few early cases treated at Coolgardie in their own homes had given better results than *any* I got in the Sanatorium. As the result of a series of extended observations I had held and inculcated for years that fresh air alone did not produce the beneficial result that it was supposed to, but that the keynote of the

benefit was dependent on the effects of moving air, a theory that Professor Leonard Hill's observations have now put upon a satisfactory basis. But I was not prepared to find that the restrictions necessitated by existence in the contracted space of urban conditions should have so little injurious effect, provided that the other conditions were moderately favourable. This has been amply demonstrated by last year's work at Middlesbrough. The result was so remarkable that at the suggestion of a medical member of my committee (Dr. Hedley) the cases were classified according to the character of the streets, and it was then shown that there was little to choose between them as far as results were concerned. Of course, this does not mean that those who live in overcrowded, ill-ventilated, and badly lighted tenements have not often had their resistance materially strained by their surroundings, but what, I hold, has been fully demonstrated is that a surprisingly little increase of care, in spite of those surroundings, is sufficient to re-establish the normal powers of resistance to the progress of tuberculosis in those who are only in the early stage of the disease. So much has this fact been recognized and acted on that it has materially relieved the strain on our Sanatorium beds; this was fortunate, as we had, on account of want of funds, to do with a smaller number.

It has now become routine practice, in early cases of tuberculosis, when the patient does not show sufficient loss of vitality to necessitate the immediate imposition of rest conditions, first of all to observe cases in their own homes. The patients attend regularly at the Tuberculosis Dispensary once a week; their homes are periodically visited by the Nurses, who suggest the desirable improvements and necessary alterations in their surroundings, and who strive to educate the patients and their relations in hygienic procedures and practical methods for care and the requisite management of the patient. Generally, but not always, a month off work is recommended, during which general observations are made as to the patient's condition, and the response to treatment is carefully recorded. In favourable cases patients are then allowed to return to work and the effect of such action is watched. Overtime in all cases is barred. The necessity for forbidding overtime to the tuberculous has been very manifest. Investigations have shown the existence of quite a large number of cases which readily break down as the result of overtime. This is quite consistent with our working theory regarding diminished powers of resistance in tuberculous subjects. It has been found over years of observation that the natural resistance of the normal tissues to tuberculous infection is quite sufficient, in nearly all cases, to protect the organism from invasion unless personal conditions are detrimental. In the 800 cases who attend our Dispensary there have been so far only about five families who have shown a natural deficiency of

resistance under normal conditions; and in these, nearly all the members are more or less tuberculously affected, and they all manifest an unusual intolerance to tuberculin. In the vast majority of cases the natural resistance is more than sufficient to protect the organism. Their tuberculous invasion has occurred when through some cause or causes the vitality of the organism has been impaired and that over some considerable time. The two most common causes of this impairment are overwork and true influenza: these by their prolonged trench warfare lower the normal resistance to breaking point. On the removal of the lowering influence the individual resistance usually rapidly returns to the safety point, though the attack may or may not leave a permanently reduced resistance, according to the amount of injury to the organism and area of tissue invasion. The information regarding this maximum point of tissue resistance can only be acquired in the home, and can be best estimated by regular observation over a considerable period, under normal conditions of living. Hence the need at the commencement of a case for the constant supervision, even of those with apparently high resistance, so as to determine their equation of resistance. This is only accurate when obtained in the home and during work, as otherwise one may over-estimate or under-estimate the resistance factor, according as knowledge above or below the line is deficient. This equational problem of tuberculosis might be stated thus:

$$\frac{\text{Individual Resistance}}{\text{Environment Conditions}} = \text{Health Possibilities.}$$

This equation is capable of being expanded as desired by breaking it up into its factors, those above the line being composed of personal factors, such as, area invaded, acuteness of attack, bronchitis complications, family history, etc.; while below the line we place overtime in work, under-feeding, bad housing, mental strain, etc. It is quite interesting to observe how in one case the balance is normal, with quite a considerable amount of tuberculous tissue invasion, and how in another the smallest amount of overwork or slightest illness produces a lowered resistance almost to a dangerous point. This was evidenced recently by the case of a man with considerable tuberculous invasion in which there was a permanent high pulse of over 110, and a chest expansion of only half an inch maximum, who was able to carry on his usual work as a joiner and walk four miles there and back daily without detriment, but when by some error he was taken into the Army and trained for three weeks, the excessive exercise and unusual fatigue so overpowered his resistance that although he was sent to the Sanatorium, he never showed any tendency towards recovery, and is now slowly but steadily retrogressing.

Weekly weighing of the patients will generally show when the

resistance is attacked and which are those cases where danger is to be apprehended from overwork, and which from naturally diminished resistance. With these latter cases no liberties must be taken unless their resistance can be raised. With the others, short periods of rest are generally quite sufficient to put them on a satisfactory basis. Sometimes, however, a change in the character of their occupation is necessary.

The evening attendance of working men and women at our Dispensary is steadily growing, and it is astonishing how regularly they come, and what a large amount of information is by that means obtained. There is great value in a regular inspection of the weight chart. If patients are asthmatic, their condition may be improved by altered locality, but we find that very few cases need to be sent away from the district altogether. Curiously enough, a holiday in the country, although sometimes working wonders for the few, for the many does not appear to be beneficial; the reason, in many instances, for the loss of ground being the excessive exertions of the patient in his too earnest search for the supposed curative values of fresh air. Life in the open air sometimes is of considerable value as a stimulant, but fatigue will much more than counterbalance any advantage due to fresh air. The majority of insured workers have not sufficient resources in themselves to derive much advantage from a holiday unless they are possessors of good health. Their idea of a holiday is one entailing constant exertion in the search for stimulation and excitement. Wordsworth's power of peacefully contemplating Nature does not belong to the ordinary city worker. If inquiries are made, it will be generally found that the patient has spent his time in aimlessly walking about, which even to healthy men and women is the most fatiguing occupation that can be imagined. The same error often occurs when men are taken off work during home treatment, and it is always advisable to find out how they spend their off time, for this inquiry will frequently reveal the reason why the case is not doing well. Were there a room provided, light and airy, with pictures, books, magazines, and suitable games, where tuberculous patients could go and spend their off time in peace and rest, the need for Sanatorium routine and residence would be materially diminished. What are working people to do at present? The industrious wife of the day labourer has all her job cut out, and wants to get the husband out of the way. Ennui seizes on him, and the only thing left is to wander idly about the streets, smoke too much, and often, alas! in only too many instances he ultimately finds a supposed relief in a public house. Workers want rest places in the day as well as at night, for as conditions are at present constituted, tuberculous workers often seriously over fatigue themselves in their restless search after fresh air.

The difference between the worker and the leisured class is in no way more marked than in this very question of resistance to tuberculosis. Active tuberculosis in the well fed, well housed, and comparatively leisured man or woman is generally a far more serious disease, as the active invasion occurs when the organism has had already everything possible done in regard to its environment, which would or could raise the resistance; then the tuberculous invasion is due to a naturally low resistance, which is a much more serious matter. A Sanatorium is more necessary for cases of naturally lowered resistance than for those with a normal resistance which has been artificially lowered. It must be counted always a cardinal factor to ascertain the measure of the powers of resistance in giving a reasonable prognosis, and no effort should be spared in arriving at a definite opinion, as the whole future conduct of the management of the case is modified by this initial judgment. The cases with lowered resistance are really quite few among members of the general working-class population, but where it does occur, home treatment is a much more problematical question. But for the vast majority of patients the work for the last eighteen months at Middlesbrough has definitely shown that the rigour of a scientifically directed tuberculosis treatment may be materially modified and reduced in most early cases, and a substitute made by carefully conducted supervision of home conditions, and this to the material advantage of the patients' finances, and considerable relief to the overtaxed funds now available for treatment, as well as to the general satisfaction of all concerned.

ON THE TUBERCLE BACILLUS.¹

By A. H. MILLER,

M.D. (CAMB.), M.R.C.P. (LOND.),

Pathologist to the Salford Royal, Manchester Children's, and Manchester Northern Hospitals.

THE tubercle bacillus, since it undergoes the changes described below, will be spoken of here as the tubercle rod; by using the term rod, whilst not committing ourselves to any exact classification, we obtain

¹ For further details regarding the practical points discussed in this paper, see the following: Miller, A. H., "The Cultivation of the Tubercle Bacillus; Change in Form by Growth on Sperm Oil and Glycerine-Egg Medium" (*Lancet*, 1914, vol. ii., p. 738); "Further Observations on Sperm Oil Tubercle Bacilli: their Biological Significance" (*Lancet*, 1915, vol. i., p. 704); "On the Bio-Chemistry of the Loss of Power of the Tubercle 'Bacillus' to Stain with Carbol-Fuchsin" (*Journal of Pathology and Bacteriology*); Miller, A. H., and Smith, A. R., "On Certain Reactions of the Tubercle Bacillus to Sperm Oil and its Constituents" (*Journal of Pathology and Bacteriology*, 1916, vol. xx., p. 395).

a far truer concept of its morphology than is inferred from the word bacillus. The organism may, for our purposes, be regarded as a "hollow" rod containing little round granules projecting up into its interior. After the application of some of the methods of staining, of which methods there are now nearly forty, the rod will be found to consist of an envelope containing a row of small round granules, placed at long or short intervals in its length. Whereas Koch and the older observers considered some of the unstained portions of the rod brought out by the Ziehl-Neelsen method to be the spores of the organism, Continental workers in late years have considered these round granules to be the spores of the organism; in neither case have definite proofs of their spore nature been brought forward. Aronson¹ appears to have been the first to state, from his experiments, that the tubercle rod contains wax. If in the rod's cultivation we apply this knowledge by means of a liquid wax, viz., sperm oil, we obtain normally those changes described later, which are nearly always to be found in the rod on laboratory media, and which in their more regular forms in a long rod, such as are found in the sputum, are known as streptococcal forms, *i.e.*, occurring in long chains of "cocci." These changes have been noted after the rod has been decolorized (Ziehl-Neelsen), but they have nothing to do with decolorization, for the rod will be found changed as described below to all intents to the same degree without any decolorization. Decolorization of the rod for any length of time with strong mineral acids and alcohol will no doubt remove some of the stain, but not much more than that which has already been acted upon either by its growth on media, or by its sojourn in the body. The process of decolorization, which was only introduced for diagnostic purposes, has become so much second nature to us, that any changes present in the rod have been unthinkingly attributed to the effect of decolorization. Major Rost, I.M.S.,² working on his leprosy streptothrix found its acid-fastness varied according to the "fatty nature of the medium used," which was milk and *fish* broth, in which latter, he says, it is interesting to note it loses its acid-fastness very much so, and that the acid-fastness can be varied according to the fatty nature of the medium. I think it will be found that Rost's streptothrix will not stain with carbol-fuchsin, which fact has primarily nothing to do with acid-fastness. It is probable also that some of the streptothrices and other acid-fast bacilli behave in the same way.

Now the changes which the tubercle rod undergoes on sperm oil are best described by a reference to the accompanying illustration, which is that of a French bean. It being impracticable to scoop out the bean,

¹ Aronson, H.: "Zur Biologie der Tuberkelbazillen, *Berliner klin. Wochenschrift*, vol. xxxv., 1898.

² Rost, E. R.: "Scientific Memoirs of the Government of India," No. 42.

the method depicted gives a good idea of the staining and non-staining parts of the tubercle rod, the parts cut away representing the non-staining portions of the rod. The illustration represents a fairly advanced stage of the rod on sperm oil. It shows, beginning from the left, a *long* granule or portion of the rod which has not yet undergone its changes, and which is probably the younger end of the rod; then there come three *quadrate* granules each containing a bean spore; and lastly a bean spore or *round* granule exposed. On sperm oil the tubercle rod first loses its power to stain with carbol-fuchsin in the centre between two stained granules, or at the spot corresponding to the constriction of the bean. For in some cases in the early stages on sperm oil the stain can be seen diffusing out of and through the rod, so that the square granules are no longer square but oval in shape. The small round granule (or bean spore) which is ultimately exposed corresponds in position to this square or diffusely oval granule. Where there is a



A MODEL OF THE TUBERCLE ROD.

The change in the model of the tubercle rod here shown, and its variations, is to be found not only on sperm oil, but clinically. Under a $\frac{1}{2}$ inch oil-immersion lens the staining and the non-staining parts of the rod usually appear as flat bands.

small round granule in the interior of the rod there may be found, when the rod is observed under high magnifications of 2,000 diameters, little corresponding prominences on the surface of the rod, resembling those of the bean. These little prominences of the rod may not perhaps be always present, nor are they always present in the bean, some beans (French) though containing spores being devoid of all bossing. The process of the rod becoming colourless to carbol-fuchsin, beginning at the part corresponding to a bean constriction, gradually spreads on either side of the starting-point, the staining portions becoming correspondingly smaller, till only a row of stained granules (or bean spores) are left in the colourless rod. The rod during this process becomes much longer in between each stained granule. The square granules of the tubercle rod, containing the tubercle spore, may not always present the clean-cut appearance of our illustration; their edges are often a little irregular or it may be a little rounded, in which case—if they are all square granules in a long rod—they might well be mistaken for a chain of cocci. There are good reasons for believing that the round granule of the tubercle rod is the reproductive spore of the rod. It appears, however, that the tubercle spore does not behave in the same way as a true bacillary spore, *e.g.*, of *B. anthrax* or *B. subtilis*, but appears to be more of the nature of a conidium.

A RATIONAL SCHEME FOR THE AFTER-CARE OF THE CONSUMPTIVE WORKING MAN.

By P. C. VARRIER-JONES,

M.A. (CANTAB.), M.R.C.S., L.R.C.P. (LOND.),

Late Foundation Scholar, St. John's College, Cambridge; and Acting Tuberculosis Officer for the County of Cambridge.

By sanatorium treatment we are able so to build up a patient's vitality that, given adequate nourishment and a free open-air life, he is able to do a considerable amount of exercise, that is, work. If, however, we remove too soon the beneficial influences there obtainable—good food in abundance, adequate rest from toil, fresh air and sunshine—our patient relapses to his former weak and non-resistant condition. It is therefore becoming increasingly evident that something more is needed than a brief period of treatment at a sanatorium for the consumptive working man.

Insurance Committees all over the country, officials and members of Friendly Societies and of Approved Societies, are becoming more and more dissatisfied with the results of sanatorium treatment. They expect, as they have a right to expect, more permanent results for the large sums of money disbursed from their funds. So keenly do they feel this, that they are now ready to co-operate with the medical profession, from whom they wait only a lead. The time is ripe for action, and tentative efforts are being made all over the country, but they are far from being adequate to meet the needs of the nation as a whole. A few scattered endeavours are of little use; they simply serve to throw into bold relief the utter want of method which at present prevails. All the separate movements must be linked up, and the momentum thus acquired must sweep all before it. Either of two methods may be tried: (1) A more prolonged stay at a sanatorium, followed by a sojourn at a farm colony, or (2) adequate help for the ex-sanatorium patient on his return to suitable employment.

Speaking generally, the first of these two propositions may be ruled out of court, as the number of existing sanatoria is certainly insufficient to meet the great need of the tuberculous, and further, if the institutions did exist, it would be difficult to induce patients to undergo treatment for a space of years, especially in the case of married men and women who have to consider their dependents. Moreover, the cost of such prolonged treatment is at the present time prohibitive.

The second of these propositions, with proper safeguards, seems to be the more practicable, not only immediately, but probably for some

time after the war, when County Councils and other administrative bodies will be unable to embark on costly experimental enterprises.

Friendly Societies throughout the country are discussing the question as to the manner in which they can help in solving this thorny problem, and as a result of the representations made by the writer, they have in many cases altered one of their fundamental rules, which hitherto has greatly hampered their action. This Friendly Society rule, which has so far stood in the way of the adequate after-care treatment of the consumptive working man, states that no member shall be engaged in any form of work while in receipt of sick pay; the same rule applies to those under our National Health Insurance Acts and effectually prevents any form of remunerative work being undertaken by a patient who, having left a sanatorium, still receives his sickness benefit. When, therefore, such a patient returns home, he is forced to remain idle, such idleness being highly detrimental to his recovery. If the patient could be allowed to engage in some remunerative work, however small, and the wages thus earned could be supplemented from the Insurance funds, the man would be placed at once in a most favourable position to resume gradually his employment. This method has been effectually carried out in Cambridgeshire, where the Friendly Societies are now prepared to assist suitable ex-sanatorium patients by allowing them to engage, under medical supervision, in remunerative work. This concession opens up vast possibilities in the treatment of tuberculosis.

In order that the State members should receive similar benefit there has been formed in Cambridgeshire an After-Care Association which has for its objects "the relieving of persons suffering from tuberculosis, and in particular of members of Approved Societies who are ineligible for sickness or disablement benefit under the National Insurance Acts or otherwise, by reason of their doing work remunerative or otherwise, prescribed as part of their treatment and approved by the tuberculosis officer."

The machinery is at hand for the comprehensive and rational treatment of the consumptive working man. All Approved Societies in the area, together with employers of labour and members of Trade Unions, are represented on the Association, so that the question of employment ought to present few difficulties. It is in the interest of each Society concerned to find employment for its tuberculous members, as the sooner such members are off the Society's funds the better for other members. Moreover, a fund adequate for the after-care of the consumptive will always be available.

Here, then, we have a scheme which enables the ex-sanatorium patient to be properly fed and clothed, while he is gradually adapting himself to his return to normal life. He is enabled to increase his

working hours gradually, and although at first he may be unable to earn a sufficient wage he is encouraged to persevere in his attempt to attain normal independence. It is the experience of the writer that an ex-sanatorium patient is only too ready to resume the duties of normal everyday life if he is assured that his health will not suffer and that his dependents are, at the same time, being well cared for. He will readily "come off the club" provided that by so doing his position is not made worse, and sufficient nourishment for his support is obtainable. By this Cambridgeshire scheme, any effort on the part of the patient is encouraged, whilst he is assisted by a monetary grant until he can earn sufficient to support himself and his family. The scheme is not difficult to carry out, but it means increased medical supervision, which, however, is amply repaid by the results achieved. Some of these results are set out by the writer in a small pamphlet,¹ others have been added since its publication..

The consumptive is thus under observation throughout the course of his disease, the co-operation of the panel doctor with the tuberculosis officer insuring efficient medical treatment, whilst the Friendly Societies make themselves responsible for the man's adequate nourishment and suitable employment. This experiment is being watched with great interest, and high hopes are entertained that it will be a great success. After a suitable period has elapsed, it is proposed to give details of the results obtained.

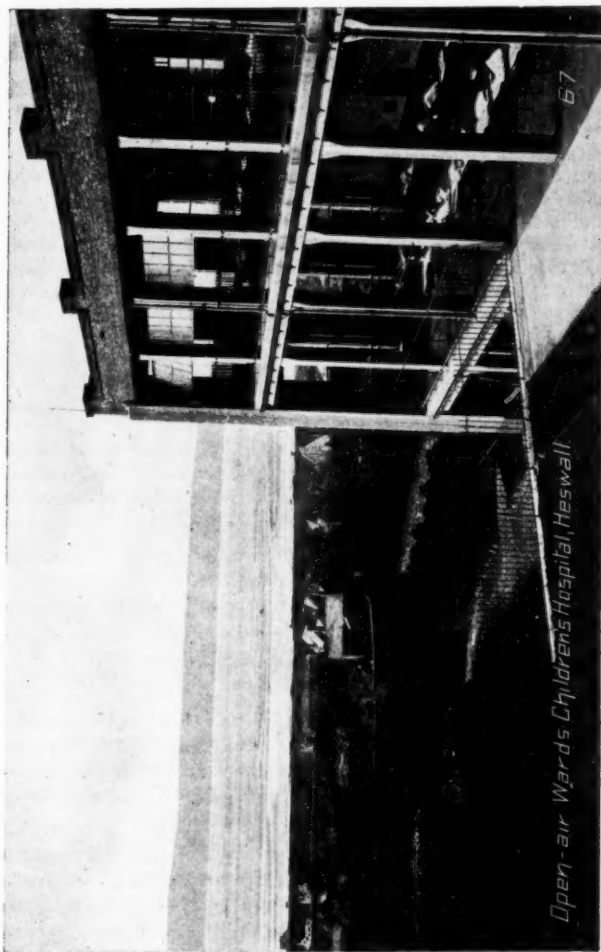
¹ Varrier Jones: "Tuberculosis and the Working Man." Cambridge: Heffer and Sons. 1916. Price 6d.

INSTITUTIONS FOR THE TUBERCULOUS.

THE WELSH TUBERCULOSIS HOSPITAL, TREGARON.

THE King Edward VII. Welsh National Memorial Association for the Prevention, Treatment, and Abolition of Tuberculosis, the Headquarters of which are at Memorial Offices, Westgate Street, Cardiff, have accomplished a great work for Wales, and even in these testing days of war the work goes steadily forward. Mr. Gwilym Hughes, the Secretary, has kindly favoured us with particulars regarding the Tuberculosis Hospital at Tregaron, Cardiganshire, which was opened by Sir Garrod Thomas on November 3, 1916, when an interesting address was delivered by Mr. D. W. Evans, the General Director of the Association. The property on which the Hospital stands originally belonged to the Tregaron Board of Guardians, but has now been leased to the Memorial Association. The building, which is substantial in character, was originally erected in 1876, but has undergone considerable structural alteration, extensions and improvement, and is now admirably adapted for the treatment of consumptive patients. The Hospital is situated in a healthy and elevated position facing south-west, and stands in its own well-wooded grounds of over an acre. The building contains ground, first, and second floors, and gives accommodation for thirty-two patients (male and female) and a staff of fourteen. On the ground floor there are four Wards, Isolation Ward, Dining-Room, Nurses' Dining-Room, Duty Room, Consulting Room, Dispensary and Waiting Room, together with the Administrative Block. The first floor provides accommodation for four additional Wards, Matron's Bedroom, and Sitting-Room. The second floor contains eight Staff Bedrooms, Sitting-Room, and Box Rooms. A Laundry is provided, which is fitted with all modern requirements. The buildings throughout are lighted electrically with modern plant carried out by Mr. Ralph Nance, of Cardiff. New drainage and water supply have been provided, and the sanitary fittings entirely renewed. The hot and cold water and steam service boilers and disinfector were carried out by Messrs. J. G. Proger and Co., of Cardiff. The contract for the buildings was that of Mr. J. Evans, of Aberystwyth, in accordance with plans prepared by Mr. J. Cook Rees, M.S.A., Neath, while Mr. M. Morgan discharged the duties as Clerk of Works. Over £3,000 has been expended by the Memorial Association in connection with the Establishment of this new centre for tuberculous cases at Tregaron.

THE ROYAL LIVERPOOL COUNTRY HOSPITAL FOR CHILDREN.



THE OPEN-AIR WARDS OF THE ROYAL LIVERPOOL COUNTRY HOSPITAL FOR CHILDREN. The wards shown face south-east, and look across the estuary of the River Dee to the Welsh mountains. Each ward is about 80 feet long, and contains forty beds.

THIS Institution, founded in 1899, deals with a number of tuberculous children of so-called "surgical" types. It is delightfully situated at

Heswall, on the Wirral Peninsula, overlooking the estuary of the River Dee. There are at present three large open-air wards, the general features of which are shown in the accompanying illustration. The Hon. Physician is Dr. C. J. Macalister; and the Hon. Surgeon Lieut.-Colonel Robert Jones, F.R.C.S.E. Full particulars regarding this up-to-date Hospital may be obtained from the Hon. Secretary, Mr. Edward J. Deane, 14, Dale Street, Liverpool.

At a time when many public authorities, as well as numerous private medical advisers, are desirous of obtaining information as to the most practical ways to deal with tuberculous subjects, and guidance in the choice of hospitals and sanatoria to which consumptive and other tuberculous patients may be sent, it will probably be helpful to remind our readers that two comparatively new volumes are available which will render considerable service: *The Tuberculosis Year-Book and Sanatoria Annual*, and *The Year-Book of Open-Air Schools and Children's Sanatoria*. The valuable reference books are published by Messrs. John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, Oxford Street, London, W. Each, price 7s. 6d. net; post free, 8s.

NOTICES OF BOOKS.

A GUIDE TO PATRIOTIC AND WAR SERVICE.

"PRO PATRIA" contains in its numerous pages a fund of information upon the special agencies that the war has called into being, or has stirred into activities on a hitherto undreamt-of scale.¹ There are also a series of expert articles, a good bibliography, and other useful material for those at work; or seeking a post of service. A study of this summary serves to emphasize the tragic waste of war in its injury and destruction of human treasure. To lessen this, in part, there have sprung up endless societies of relief, symbolized in the Red Cross. Every woe of war has inspired some ameliorative remedy. Enthusiastic volunteers have drifted into groups, each according to his kind. Some degree of chaos was inevitable at the first rush of war, but, with time, definition of function and co-operation have come about, and this book impartially records the process and result. Developments proceed rapidly and a new edition should soon be called for, with a list of the over 400 war charities registered under the recent Act of Parliament, and with the story of such new funds as the Rumanian Relief, the Kitchener Memorial, and the Strength of Britain Movement. A final edition of "Pro Patria" will be excellent material in the hands of future philanthropists at the time of the next great international or race conflict, though, indeed, we wish that its sole use for posterity should be as an historic record of the redeeming features of a dark age when war, tuberculosis, intemperance, and other preventable human scourges were tolerated by the selfishness of rulers and the ignorance of their peoples.

ARTHUR BLACK.

IMMUNIZATION AGAINST TUBERCULOSIS.

"Under ordinary circumstances the efforts of the tuberculosis crusade cannot bear appreciable fruit for many years; but we are convinced personally that this object could be attained with greater rapidity, certainty, and uniformity by a general application of the method of specific prophylactic immunization proposed by us." So say Drs. Karl von Ruck and Silvio von Ruck in their new volume of "Studies in Immunization Against Tuberculosis."² This treatise is an able exposition of the specific treatment of tuberculosis by tubercle bacillus products, as carried out in connection with the Winyah Sanatorium and its Research Laboratory. The work is divided into three parts: the first deals with theoretical considerations, such as immunity in infectious disease, acquired specific immunity, and the rôle of bacterio-

¹ "Pro Patria: A Guide to Public and Personal Service in War Time." Edited by T. N. Kelynaek, M.D. Vol. i., pp. xxxiii + 260, with illustrations. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, Oxford Street, W. 1916. Price 3s. 6d. net; post free, 4s. net.

² "Studies in Immunization against Tuberculosis." By Karl von Ruck, M.D., and Silvio von Ruck, M.D. Pp. xvi + 439. New York: Paul B. Hoeber, 67-69, East Fifty-ninth Street. 1916. Price \$4.

lysins and bactericidins and the complement-fixative reaction; the second discusses procedures for practical immunization against tuberculosis, including the authors' method of specific prophylactic immunization against human tuberculosis, the administration of the vaccine and its results, and the specific treatment of pulmonary tuberculosis; and the third enumerates the results of an important series of experimental studies, including investigations regarding the toxic constituents of the tubercle bacillus, the value of the guinea-pig in experiments on tuberculosis, and animal experiments with bactericidal sera. The whole volume merits thorough study, and will be found of exceptional value to those working with tuberculin and allied bodies. Students will know how to appreciate the numerous references given to the best literature of the subject. We would suggest to the authors the wisdom of preparing a condensed version of the volume, which should provide busy practitioners with the essentials of the subjects which are here so elaborately discussed. The book is one which should be studied in its entirety by tuberculosis officers, superintendents of sanatoria, and all serious students of tuberculosis.

PULMONARY TUBERCULOSIS.

Dr. Halliday G. Sutherland is an enthusiastic disciple of Sir Robert Philip, and in Edinburgh and elsewhere has devoted years of patient study to the medico-sociological aspects of the tuberculosis problem. He sees that if real progress is to be maintained the general practitioner of medicine must be willing and able to participate effectively. And to further this aim Dr. Sutherland has recently issued an admirable treatise, comprehensive and yet compact, explicit and up to date, with data and directions so grouped and presented as to provide essential principles and necessary practices in a form which the busy doctor can appreciate and use.¹ The book is one which should be in the hands of all working for the prevention and arrest of consumption. It is a complete and modern exposition of pulmonary tuberculosis as a systemic disease, with a serviceable account of clinical and biological methods of diagnosis, and affords guidance in regard to approved rational methods of treatment. The author states that his book, although planned before the outbreak of war, "was written in the neighbourhood of the equator, on board H.M. armed merchant cruiser *Empress of Britain*." As a clinical guide the volume is admirable. The suggestions for the use of graphic signs and abbreviations will doubtless find favour with many tuberculosis officers. There is a useful chapter on the use of X rays in diagnosis, and considerable space is given to a consideration of tuberculin in diagnosis and treatment. The volume is well got up, paper, printing, and illustrations all being worthy. We strongly commend this suggestive and informing manual to those desirous of a reliable, condensed, and thoroughly practical guide to the study and management of pulmonary tuberculosis.

¹ "Pulmonary Tuberculosis in General Practice." By Halliday G. Sutherland, M.D., Consulting Tuberculosis Officer for North Marylebone, and Medical Officer to the South Marylebone Tuberculosis Dispensary. Pp. xv+290, with 6 plates, 42 figures, and 9 charts. London: Cassell and Company, Ltd., La Belle Sauvage, Ludgate Hill, E.C. 1916. Price 10s. 6d. net.

CUTANEOUS DISORDERS.

Every tuberculosis officer and all superintendents of sanatoria should possess a practical knowledge of diseases of the skin, for cutaneous disorders of many and varied kinds are frequently met with among tuberculous subjects. Two recent works deserve to be specially commended to our readers. The new edition of Dr. W. Knowsley Sibley's manual is a particularly practical work for practitioners desirous of up-to-date guidance in the management of pathological states of the skin.¹ It provides information, in a convenient and reliable form, regarding the chief methods of treatment by X rays, radium, electrolysis, ionic medication, high-frequency currents, the use of carbon dioxide snow, the production of states of hyperæmia, vaccines, and regulated dietaries. The major part of the volume consists of directions for the management of the various forms of cutaneous derangement. There are excellent sections on lupus and other tuberculous lesions of the skin. The volume is also provided with a serviceable collection of prescriptions which all practitioners will find of exceptional value. The illustrations, taken from photographs of actual cases, add much to the interest and helpfulness of this practical handbook. We would also direct attention to an excellent and bountifully illustrated French work, which bears the name of Dr. H. Gougerot.² It is a member of the excellent series "*Comment Guérir? Bibliothèque des Praticiens*," published under the direction of Dr. C. Fiessinger. Dr. Gougerot's work is divided into two parts. The first provides "*une vue d'ensemble*," while the second, which forms the major portion of the volume, is designated "*Les Problèmes de Dermatologie Pratiques*," and in a series of twenty-three chapters deals with the chief diseases of the skin. A lengthy section of over sixty pages is devoted to "*Tuberculoses Cutanées*," and deals at length with the various forms of lupus and other tuberculides. The illustrations of tuberculous lesions are excellent. Indeed, the illustrations, of which there are no less than 180, some in colours, arranged on sixty-six plates, are special features of the work, and make it, irrespective of its excellent text, one which the busy doctor will find of exceptional value. We strongly commend this practical French manual to the notice of British practitioners of medicine.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

The last two volumes of Studies issued from the Bureau of Laboratories of the Department of Health of the City of New York, under the directorship of Dr. William H. Park, contain numerous articles

¹ "*The Treatment of Diseases of the Skin*." By W. Knowsley Sibley, M.A., M.D., B.C., M.R.C.P., Physician to St. John's Hospital for Diseases of the Skin, London. Second edition. Pp. xii + 307, with 16 plates. London: Edward Arnold. 1916. Price 6s. net.

² "*La Dermatologie en Clientèle: L'Indispensable en Dermatologie*." Par H. Gougerot, Professor Agrégé à la Faculté de Médecine de Paris. Pp. xii + 764, 114 figures en noir en 52 planches, 40 figures en couleurs en 16 planches hors texte. Paris: A. Maloine et Fils, 27, Rue de l'École-de-Médecine. 1917.

likely to be of interest and value to students of tuberculosis.¹ Among the articles in Vol. VII. reference may be made to the following: The relation of the virulence of the tubercle bacillus to its persistence in the circulation, by Dr. Alfred L. Hess; acid agglutination of tubercle bacilli, by Dr. Charles Krumwiede, jun.; the relative importance of the bovine and human types of tubercle bacilli in the different forms of tuberculosis, by Drs. William H. Park and Charles Krumwiede, jun.; on tuberculin, and also on attempts to immunize against tuberculosis by the combined action of injections of tuberculin and of the serum of tuberculous rabbits, by Drs. James P. Atkinson and Charles B. Fitzpatrick; the frequency of *B. tuberculosis* in the market milk of New York City, by Drs. Marie Grund and Harriet L. Wilcox; comparative tests of sputum by the Kinyoun and Elliman-Erlandsen method, by Drs. Jane L. Berry and Mary A. Smeaton; tubercle bacilli in the blood, by Dr. Jane L. Berry; and lime assimilation and tuberculosis, by the late Dr. Ira Van Gieson. Vol. VIII. contains many communications of great value, and the titles of certain articles should be mentioned here: The utilization of reactor-milk in tuberculo-medicine, by Dr. Charles B. Fitzpatrick; a device for the successive determination of solids and fat in milk and other fluids, by Dr. Armin Seidenberg; the types of pneumococci in tuberculous sputum, by Dr. Harold W. Lyall; and a summary of four years of clinical and bacteriological experience with meningitis in New York City, by Drs. Phebe L. Du Bois and Josephine B. Neal. These notable volumes should be available for all students of experimental medicine, and all concerned in their planning and production are to be congratulated.

Mr. C. Mansell Moullin has been well advised to issue in convenient book form his interesting and suggestive Bradshaw Lecture on the Biology of Tumours.² The work raises many points, and expresses opinions which are not likely to pass without severe criticism. The author divides tumours according to their mode of origin into the two classes: Tumours due to the reproductive power of the tissues; and tumours due to structural details not being perfectly carried out. The work should prove a stimulus for further research.

Works on therapeutics are nowadays comparatively rare, and therefore Dr. G. F. Goldsbrough's little work on "First Principles" should be given an unprejudiced perusal.³ It is based on the Honyman-Gillespie Lectures delivered at the London Homœopathic Hospital. Some idea of the scope of the book will be best given by an enumeration of the titles of the four lectures: Treatment depends on Prognosis, A Subordinate Order of Principles Foreshadowed, Taking the Case, and The Search for and Choice of Medicine.

¹ "Collected Studies from the Bureau of Laboratories, Department of Health, City of New York." Dr. William H. Park, Director. Vol. vii., 1912-13, pp. 463; vol. viii., 1914-15, pp. 435, each with illustrations, charts, plates, etc. New York: Bureau of Laboratories, foot of East Sixteenth Street.

² "The Biology of Tumours." By C. Mansell Moullin, M.A., M.D., F.R.C.S., Lieut.-Colonel R.A.M.C., T., Consulting Surgeon to the London Hospital. Pp. 55. London: H. K. Lewis and Co., Ltd., 136, Gower Street, W.C. 1916. Price 2s. 6d. net.

³ "First Principles in Therapeutics." By Giles Forward Goldsbrough, M.D., Senior Physician to and Honyman-Gillespie Lecturer on Therapeutics at the London Homœopathic Hospital, and First President of the British Homœopathic Society. Pp. v+138. London: John Bale, Sons and Danielsson, Ltd., 83-91 Great Titchfield Street, W. 1916. Price 7s. 6d. net.

Motoring, either for health or professional work, can now only be carried on under difficulties and with serious limitations, but before long it may be hoped that an economic and reasonable use of the motor-car may be available for those who have to depend on its services for the conservation of physical powers and the conduct of all forms of welfare work. Mr. R. T. Nicholson has written an informing, well-illustrated and helpful handbook on the management of a simple, inexpensive, and easily controlled car.¹ The manual will appeal to doctors, and especially to medical superintendents of sanatoria or other establishments in country districts where some form of reliable means of transit is indispensable.

The Teachers' War Service Committee of the Educational Institute of Scotland, the Secondary Education Association of Scotland, and the Scottish Class Teachers' Federation have accomplished much practical and patriotic work, and all our readers should make a point of procuring the new edition of a pamphlet on Thrift, which has been prepared by Mr. George C. Pringle, M.A.² It is an admirable collection of notes "for speakers, teachers, and preachers," and, we should like to add, medical and nursing administrators.

Photographers, especially those of the amateur variety, may be reminded that the 1917 edition of the justly valued "*Wellcome*" *Photographic Exposure Record and Diary* is now available. It retains its neat, compact pocket-book form, and serviceable arrangement of data, diary, and docketing, and is, indeed, an indispensable companion for all who desire to be up to date in photographic knowledge.³

¹ "The Book of the Ford." By R. T. Nicholson, M.A. Pp. 245, with illustrations. London: Temple Press, Ltd., 7-15, Rosebery Avenue, E.C. 1916. Price 1s. 6d. net.

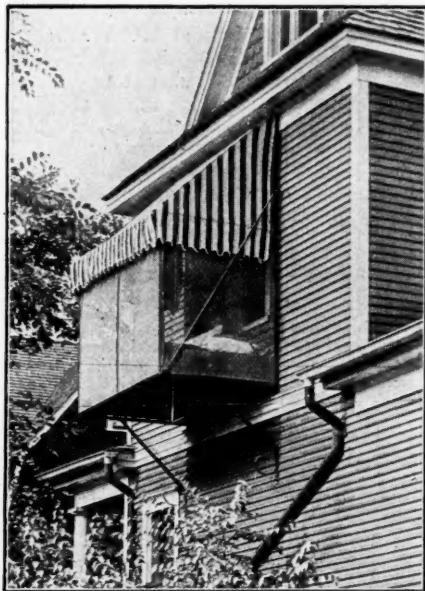
² "Thrift: its Doctrine and Practice." By George C. Pringle, M.A., Member of the Scottish Committee for Organization of War Savings. Second Edition. Pp. 42. Edinburgh: Teachers' War Service Committee, 34, North Bridge. 1916. Price 3d. net; post free, 4d.

³ The "*Wellcome*" *Photographic Exposure Record and Diary*, 1917, is published by Messrs. Burroughs Wellcome and Co., Snow Hill Buildings, Holborn, London, E.C. Price 1s. net.

PREPARATIONS AND APPLIANCES.

A SANITARY SLEEPING PORCH.

IN America many of the newer types of houses are built with a sleeping porch. In the United States many ingenious arrangements have been devised for the formation of sleeping balconies or the like adapted to windows of the old-fashioned form. The accompanying illustration



THE KORFF SANITARY HANGING SLEEPING PORCH.

indicates an effective, safe, attractive, and roomy open-air sleeping shelter which might be extensively used in this country with great advantage, particularly for young subjects. THE KORFF SANITARY HANGING SLEEPING PORCH deserves to be known and used on both sides of the Atlantic.¹

¹ A descriptive booklet, with full particulars regarding prices, will be sent to any medical practitioner on application being made to the Korff Manufacturing Company, Lansing, Michigan, U.S.A.

HYGIENIC DUSTING.

Dust is often the carrier of disease. The tubercle bacillus lingers long in the dust of rooms, inhabited by careless tuberculous subjects. Experiment has proved that dried sputum retains infective power after from six to nine months. It is said that tubercle bacilli have lived at the temperature of liquid air (-186° C.) for forty-two days. On the other hand, direct sunlight kills them in three minutes, and a 5 per cent. carbolic acid solution (1 in 20) in thirty seconds. The old-fashioned methods of cleansing floors and dusting rooms are insanitary and ineffective, and often fraught with danger to those engaged in these domestic duties. Hygienic means are now available, and one of the best appliances for the cleansing of floors, doors, ledges, etc., of hospitals and sanatoria, and particularly private dwellings, is provided in the O-CEDAR MOP and POLISH.¹ This clever contrivance cleans, dusts, and polishes at the same time. Dust is easily gathered and can be effectually dealt with. The "Mop" can be readily washed and cleaned and its effectiveness renewed by the special polish provided. We strongly commend this hygienic appliance as a means to protect health, and a valuable prophylactic agent against disease. It should be used in every habitation and will be found of special service in dealing with apartments used by consumptive cases.

A NOVEL VACUUM WASHER.

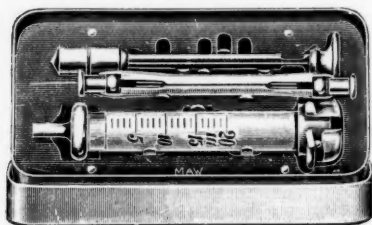
Time and labour saving contrivances are getting their chance in these days. Anything which lightens the load or diminishes the cost of household duties is to be welcomed, and particularly appliances which enable delicate and handicapped women to carry on with domestic necessities. The new "SWIFTSURE" VACUUM CLOTHES WASHER is an ingenious and effective appliance which should prove a boon to many.² It provides a means for employing the force of compressed air and suction in the washing of clothes, and avoids handling, rubbing, the use of a washboard, and other difficulties and disabilities which make washing an impossible task for many delicate subjects. Moreover, this contrivance seems to provide a means whereby the handling of pocket handkerchiefs and other materials contaminated by tuberculous subjects can be avoided. The washer is made of solid copper, and well finished: it is durable, inexpensive, and can be worked with comparative ease.

A RELIABLE HYPODERMIC SYRINGE.

An efficient syringe for hypodermic medication is an essential part of the doctor's equipment in all departments of medical practice. A

¹ Full particulars regarding the "O-Cedar Mop and Polish" may be obtained from the Channell Chemical Company (of England), Ltd., 41-45, Old Street, London, E.C.

² Particulars regarding the "Swiftsure" Vacuum Clothes Washer can be obtained from the manufacturers, the British Vacuum Washer Company, Canadian Buildings, James Street, Liverpool.



THE "RECORD" HYPODERMIC SYRINGE.

Each syringe is thoroughly tested before being sent out. We commend this strong, effective, and economic syringe to the notice of our readers.

really reliable instrument, of British manufacture, has been introduced by Messrs. S. Maw, Son and Sons, under the designation of the "RECORD" HYPODERMIC SYRINGE.¹ The chief features are indicated in the accompanying figure. The accurately graduated and clearly marked glass barrel is fitted with nickel-plated mounts, and there is a solid metal piston.

REQUISITES FOR THE SANATORIUM AND ITS PATIENTS.

Under the general title of VASOGENS, Messrs. E. T. Pearson and Co., Ltd., have introduced a series of useful preparations which will be found of special value in dealing with certain tuberculous cases and patients undergoing sanatorium treatment.² "Iodine Vasogen" is a non-irritant, non-staining preparation of iodine. The iodine is retained dissolved in a partly oxygenated mineral oil, consisting mainly of hydrocarbons, and when brought in contact with moisture or tissue juices emulsification and ready absorption occurs. "Salicyl Vasogen" is a rapidly absorbed non-irritant preparation, representing something like 10 per cent. of salicylic acid, and proves a valuable agent in dealing by inunction with sciatica, lumbago, and various so-called rheumatic disorders.

Messrs. William Browning and Co. have introduced a particularly elegant and effective series of preparations of "SEMPROLIN" PETROLEUM EMULSION.³ We would direct special attention to two forms likely to be of special value in dealing with tuberculous cases. In one, "Emulsio Semprolin \bar{c} Guaiacol," the guaiacol is present equivalent to 10 grains of guaiacol carbonate in each tablespoonful and 50 per cent. of the emulsion consists of purest Russian liquid paraffin of British Pharmaceutical standard. In the other, "Emulsio Semprolin \bar{c} Guaiacol et Potass. Iod.," there is also an equivalent of 5 grains of iodide of potassium to each half-ounce. These preparations are perfect pharmaceutically, and their therapeutic value is considerable.

¹ The "Record" Hypodermic Syringe is supplied by Messrs. S. Maw, Son and Sons, 7-12, Aldersgate Street, London, E.C., at from 8s. 6d. to 19s., according to size and capacity.

² Full particulars and samples of the various Vasogens now available for hospital, sanatorium, and dispensary treatment, as well as for use in domiciliary management and private practice, may be obtained by medical practitioners on application to Messrs. E. T. Pearson and Co., Ltd., London Road, Mitcham, Surrey.

³ Full particulars regarding the "Semprolin" brand of Petroleum Emulsions can be obtained, and free specimens are also supplied to medical practitioners, on application being made to Messrs. William Browning and Co., Albert Works, Park Street, London, N.W.

The Saccharin Corporation, Ltd., are introducing some new preparations which promise to be of value in dealing with certain tuberculous cases.¹ "Trivalin," which is to be regarded as a substitute for morphia, is a preparation of valerianate of caffeine, cocaine, and morphine, and it is claimed in such combination as will avoid the undesirable action of either drug. It is said to be a serviceable sedative in cases of laryngeal tuberculosis. It can be given hypodermically, or by mouth in capsule form. "Dial," or diallyl barbituric acid, is a new synthetic product, which possesses special hypnotic and sedative properties. It is odourless, nearly tasteless, inexpensive, and appears to produce quiet refreshing sleep, with no undesirable after-effects. The preparation seems to deserve testing in hospitals and sanatoria for consumptives and other tuberculous cases.

Messrs. Burroughs Wellcome & Co. are now introducing a number of new preparations which promise to replace medicaments hitherto received from Teutonic sources.² "Tolamine," or sodium toluene parasulphonchloroamide, possesses powerful germicidal properties, and is very widely used in the antiseptic treatment of wounds. It seems likely to be of value in dealing with certain tuberculous sinuses and ulcers, or in septic states associated with tuberculous diseases.

The well-known and much-used germicidal agent for long designated "Lysol" is now being manufactured by various British firms. A particularly reliable preparation, and well adapted for the disinfection of sputum flasks, is being supplied by Messrs. Evans, Sons, Lescher and Webb, Ltd.³

Messrs. Edward Cook and Co., Ltd., have won a well-deserved distinction by the excellence of their various forms of soap. They have introduced under the designation of "ASEPSO"⁴ a germicidal soap which should be of value in dealing with cases of tuberculosis and other infectious diseases. It contains 3 per cent. of biniodide of mercury.

Messrs. Oppenheimer, Son and Company, Ltd., have introduced a Cream of Malt with Cod Liver Oil Substitute, which, now that cod liver oil preparations have become so expensive, merits the attention of tuberculosis officers, medical superintendents of hospitals and sanatoria, and others.⁵ The substitute takes the form of a synthesized product containing fatty material, phosphorus in the form of lecithin, and a minute quantity of iodine. The preparation is supplied

¹ Full particulars regarding the new preparations now being introduced by the Saccharin Corporation, Ltd., may be obtained on application to the Head Offices, 36, 37, Queen Street, London, E.C.

² Particulars regarding the new synthetic and other preparations recently introduced by Messrs. Burroughs Wellcome & Co. may be obtained on application to the firm's Central Offices at Snow Hill Buildings, London, E.C.

³ Particulars and sample of "Lysol Evans" will be sent to medical practitioners on application being made to the firm's London Offices at 60, Bartholomew Close, E.C.

⁴ Particulars regarding "Asepsol" Soap may be obtained from the makers, Messrs. Edward Cook and Co., Ltd., The Soapery, Bow, London, E.

⁵ Full particulars regarding the preparation of Cream of Malt with Cod Liver Oil Substitute may be obtained from Messrs. Oppenheimer Son and Company, Ltd., 179, Queen Victoria Street, London, E.C.

in bulk at special terms to hospitals and sanatoria. It should be noted that reliable analysis has proved it to possess a high degree of diastatic activity.

Messrs. Clement and Johnson have recently issued a descriptive price list regarding their Vaccines and Tuberculins, which are said to be "specially prepared by an eminent English bacteriologist."¹ We shall hope to describe these excellent products in our next issue, and meanwhile recommend our readers to procure a copy of the descriptive catalogue.

Various forms of SPUTUM CUPS and SPUTUM HOLDERS are in use in this country and America. The form known as Lister's Pocket Cup is much used in the United States, and other varieties have been introduced by Messrs. Johnson and Johnson, of New Brunswick, N.J., U.S.A.²

In recording signs and symptoms of disease both in hospital and private work, much time and trouble can be saved by the judicious use of charts and diagrams. Messrs. John Bale, Sons and Danielsson are now supplying useful diagrams in block form (price 1s.), which only need to be known to be appreciated and used.³

The publications of the National Food Economy League will be found of interest and value by those responsible for the supply of suitable and adequately prepared food to patients in hospitals and sanatoria or undergoing domiciliary treatment.⁴ We would particularly draw attention to the suggestive brochure, "Patriotic Food Economy for the Well-To-Do" (price 6d., postage 1d.), and the striking and informing graphic table of "Comparative Food Values" (price 3d.).

For the amusement of patients in hospitals and sanatoria, one of the simplest, cheapest, and best means of recreation is provided by JIG SAW PUZZLES. The Picture Puzzle Company have introduced an excellent series of these delights for the sick and convalescent, and we would advise those who want to provide some inexpensive but welcome New Year souvenirs for patients in public institutions or undergoing treatment in their own homes to procure a supply of these amusing and instructive puzzles.⁵

¹ A copy of "C. and J.' Vaccines and Tuberculins" will be sent to any medical practitioner on application being made to Messrs. Clement and Johnson, 19, Sicilian Avenue, London, W.C.

² Full particulars regarding the hygienic appliances introduced by Messrs. Johnson and Johnson for the use of tuberculous and other patients can be obtained on application to the European agents, Messrs. John Timpson and Co., Ltd., 104, Golden Lane, London, E.C.

³ Specimens and particulars of the blocks of Diagrams of the Chest and Abdomen can be obtained on application to Messrs. John Bale, Sons and Danielsson, 83-91, Great Titchfield Street, Oxford Street, London, W.

⁴ Full particulars regarding the aims of the National Food Economy League and its timely and educational publications may be obtained on application to the Secretary, Mrs. Harold Lock, 3, Woodstock Street, Oxford Street, London, W.

⁵ A list of the Jig Saw Puzzles manufactured by the Picture Puzzle Company may be obtained on application to Messrs. W. G. Evans and Sons, 1-4, William's Mews, Stanhope Street, Euston Road, London, N.W.

THE OUTLOOK.

THE FUTURE OF THE TUBERCULOSIS MOVEMENT.

THE BRITISH JOURNAL OF TUBERCULOSIS with this issue commences its eleventh volume. Never in the history of our Empire was there a greater need for co-ordination, co-operation, sacrifice, and a clear, courageous outlook. Many problems call for scientific analysis, and demand for their solution constructive endeavours. Tuberculosis is a question which must be met here and now: it cannot be treated as one of the "after-war" conundrums. The war has seriously impeded the progress of the tuberculosis movement. The campaign against consumption and other forms of tuberculosis should be recognized as an essential part of our present strenuous conflict for race preservation. Prior to the outbreak of the Great War a more or less systematically organized administration was coming into being, and promised to accomplish much for the prevention and arrest of tuberculosis. The quickening of the energies of the State in attacking this insidious enemy of the people, and the increasing development of State enterprises, have gone far to discourage individual benefactions and to diminish voluntary efforts. With the coming of war the State has been compelled to concentrate its efforts on the main purpose, and therefore the Tuberculosis Service of the country has necessarily been restricted; Tuberculosis Schemes have been limited or have remained undeveloped, and the building of many sanatoria has had to be deferred. Moreover, important institutions conducted on a private or voluntary basis have been closed or handed over to the State for the use of necessitous combatants. The development of Residential School-Sanatoria and Open-Air Schools for day scholars has been brought nearly to a standstill. On all hands there have been embarrassments preventing progress in almost all work relating to tuberculosis, and most enterprises aiming at the assistance of the tuberculous. But the war, while diminishing our powers for serving tuberculous sufferers, has immensely increased the demands for all forms of relief. Large numbers of combatants are being invalided out of the services with active tuberculosis, and the means and measures for dealing adequately with them are, by general admission, sadly insufficient. Not a few tuberculous soldiers are being returned to their own homes, where their presence, under existing non-hygienic conditions and often with meagre allowances for nutritional and other needs, offers a menace to the family and a danger as well as a burden for the community. It must also be remembered that among the immense army of men and women and boys and girls, engaged in munition works and other occupations entailing fatigue, exposure to unhealthy atmospheric and other conditions, irregularity in regard to meals, unwonted excitement, and numerous influences undermining physical and psychical powers, tuberculosis is claiming a heavy toll. Moreover, the necessity for darkening habitations, schools, hospitals, orphanages, offices, works,

churches, and all sorts and conditions of houses and other buildings where people gather together, has dealt a serious blow at open-air methods, and has compelled the majority of men and women and children to return to non-hygienic procedures which not only predispose to tuberculosis, but render infection easy, and make the domiciliary treatment of the consumptive on hygienic lines practically impossible. The war has in numerous other ways, which need not be referred to here in detail, rendered anti-tuberculosis work extremely difficult, and for some time to come the perplexities in connection with the tuberculosis movement must increase rather than diminish. It is essential that the present situation shall be viewed from every standpoint. We venture to suggest that the time has now come when the best analytical and constructive minds, and the most experienced of practical experts, should be called into a common council. We would respectfully urge on the Government the immediate appointment of a representative Committee, or an authoritative Commission, to consider the whole Tuberculosis Problem in relation to war and probable after-war conditions.

TERMINOLOGY: "TUBERCULOUS" OR "TUBERCULAR."

Readers of this Journal know that as far as has been possible a consistent policy has been adopted in the use of terminology applicable to tuberculosis. In this country many writers use the designations "tuberculous" and "tubercular" as though they might be considered synonymous. We have always held that "tuberculous" is the proper adjectival term to be applied to a lesion which was definitely due to the tubercle bacillus. Now that the study and treatment of syphilis is to occupy an important place in medical work, and it may be convenient to describe certain syphilitic manifestations as of a "tubercular" form, it is most desirable that accuracy and precision should characterize our terminology. The American National Association for the Study and Prevention of Tuberculosis¹ has recently issued an official declaration on the proper use of the terms "tuberculous" and "tubercular," and we trust British authorities will fall into line and use the terms in the way advocated. We quote the "opinion" in its entirety: "Of the various words used to designate some phase or other of the tuberculosis movement, the word 'tubercular' is most frequently misapplied. The term 'tubercular' may be used correctly only to describe conditions resembling tubercles, but not necessarily caused by the tubercle bacillus, the germ of tuberculosis. Thus, if one says a certain individual is tubercular, he really indicates that the person has a disease process manifesting itself by tubercles or little lumps, but it is not necessarily tuberculosis. To say that the person has tuberculosis, the adjective 'tuberculous' is the correct word. It refers directly to diseased conditions caused by the tubercle bacillus. Thus, when an institution for tuberculosis recently labelled itself as a 'tubercular sanatorium,' it not only indicated that the sanatorium was sick, but that it was sick with

¹ The Headquarters of the National Association for the Study and Prevention of Tuberculosis is at 105, East Twenty-second Street, New York City, U.S.A. Dr. Charles J. Hatfield is the Executive Secretary and Dr. Philip P. Jacobs Assistant Secretary. The Association conducts a valuable Press service, and the above extract is reproduced from the issue of October 19, 1916.

something resembling tuberculosis. The adjective 'tubercular' should be used very infrequently. The word 'tuberculosis' may be used correctly as an adjective, modifying sanatorium, hospital, nurse, etc. This is in accord with the common usage of such phrases as 'typhoid hospital,' 'smallpox infirmary,' etc. 'Tuberculosis' may also be used, as it commonly is, as a noun, but the use of 'tuberculous' or 'tubercular' as nouns without a modifying definite article, 'the,' is extremely doubtful. Since the anti-tuberculosis campaign is developing with such great rapidity, the National Association for the Study and Prevention of Tuberculosis urges all newspapers and other publications, as well as its own affiliated associations, to make proper use of the words 'tuberculosis,' 'tuberculous,' and 'tubercular.'" It is much to be hoped that among English-speaking leaders there may be uniformity in this matter. Reference may also be permitted here to the use of the term "sanatoriums" instead of "sanatoria." From time to time we have received remonstrances regarding our conservative action in continuing the use of "sanatoria" as a euphonious and justifiable plural for sanatorium. We shall be glad to receive the opinions of our subscribers.

DOMICILIARY TREATMENT OF TUBERCULOSIS.

The Local Government Board has issued a new Order providing for the future action of medical practitioners responsible for the carrying out of domiciliary treatment of insured persons suffering from tuberculosis. The operative part of the Order is as follows: "The treatment shall be carried out under the care and direction of a medical practitioner, subject to the following conditions, and to such other conditions as we may in any case from time to time approve; that is to say: (1) That the medical practitioner attend each patient at such intervals as may be necessary in the interest of the patient; (2) that the medical practitioner give the patient such instructions as are required as to his mode of living, diet, rest and work, and as to precautions necessary to protect the patient against reinfection; (3) that the medical practitioner prepare and transmit to the consulting officer at such reasonable intervals, not being less often than once in every three months, as may be arranged between them, a report in regard to each patient in the form set forth in the schedule to these regulations; (4) that the medical practitioner make arrangements with the consulting officer for each patient to be examined by the consulting officer not less often than once in every twelve months; (5) that the medical practitioner confer with the consulting officer at such times and in such circumstances as may be arranged between them in regard to patients under the care of the medical practitioner; (6) that the medical practitioner from time to time inform the medical officer of health of the sanitary district in which the patient resides, of any circumstances known to the medical practitioner which may affect adversely the sanitary conditions under which the patient is living, and in respect to which action by the medical officer of health or of the sanitary authority would, in the opinion of the medical practitioner, be necessary or desirable." The schedule provided has spaces for the record of the progress of the case since the last report on the general condition of

the patient, an account of the general line of treatment followed, a statement as to whether the conditions under which a patient is living and receiving treatment are satisfactory, and the behaviour of the patient in carrying out instructions as to treatment and to precautionary measures. The practitioner is also required to state whether any form of treatment, such as sanatorium, hospital, or dispensary, has become desirable. The regulations come into operation on January 1, 1917, but do not apply to Wales and Monmouthshire.

NOTES AND RECORDS.

Dr. Arthur Newsholme, the Chief Medical Officer of the Local Government Board, and his staff have accomplished notable service in the organization and administration of measures for the prevention and arrest of tuberculosis. The progress that has recently been made, particularly in regard to the treatment of tuberculous cases, is conveniently summarized in the last Annual Report of the Local Government Board.¹

All concerned for the scientific care and educational well-being of tuberculous and tuberculously disposed children should make a point of seeing a vivacious and highly suggestive little paper which bears the attractive name of *The Open-Air Smile*.² It is the organ of the Elizabeth McCormick Open-Air Schools of Chicago, the Director of which is Mr. Sherman C. Kingsley.

The American Association for the Study and Prevention of Tuberculosis issues monthly an admirable "Bulletin" "in the interest of workers engaged in the Anti-Tuberculosis Movement."³ The Bulletin contains notes on developments throughout the United States, and an admirable section of "Medical Notes, Abstracts, and Reviews." Would it not be possible for the British National Association for the Prevention of Consumption and other forms of Tuberculosis to issue a similar publication to workers in this country?

An important course of lectures and discussions on "Public Health Problems under War and After-War Conditions," in one of which tuberculosis will receive consideration, will be held at the Royal Institute of Public Health, 37, Russell Square, London, W.C., on Tuesday afternoons, at 4 p.m., from January 17 to March 28 inclusive.⁴

¹ Forty-fifth Annual Report of the Local Government Board, 1915-16. Part III. Public Health, etc. Pp. 27. London: Wyman and Sons, Ltd., 29, Bream's Buildings, Fetter Lane, E.C. 1916. Price 2d.

² *The Open-Air Smile* is published monthly at 315, Plymouth Court, Chicago, Ill., U.S.A.

³ The *Bulletin of the National Association for the Study and Prevention of Tuberculosis* is issued monthly from 105, East Twenty-second Street, New York City.

⁴ A syllabus of the course of lectures on "Public Health Problems under War and After-War Conditions" may be obtained on application to the Secretary, the Royal Institute of Public Health, 37, Russell Square, London, W.C.